

REMARKS

Elections/Restrictions

Applicants confirm the election to prosecute the invention of Group I, Claims 1-4 and 12-15.

Claim Rejections -35 USC §103

The rejection of Claims 1, 2, 12 and 13 under 35 USC 103(a) as being unpatentable over Butcher et al. in view of Holland et al. is respectfully traversed because the claimed invention would not have been obvious to a person of ordinary skill in the art. The claimed process of manufacturing a hollow plastic product with two open ends includes the steps of initially injection molding a hollow plastic product with one open end and one closed end and then removing at least a portion of the closed end in order to provide the hollow injection-molded plastic product with two open ends.

Neither reference suggests such a combination of steps or a combination of apparatus for performing such steps. Butcher et al. describe manufacturing either a hollow plastic product with two open ends or a hollow plastic product with one open end and one closed end. Butcher et al. describe cutting only their hollow plastic product that has two open ends. (See Column 3, lines 21-37). Butcher et al. do not suggest that their product with two open ends be provided by removing at least a portion of the closed end of a product that initially has been provided with one open end and one closed end, as required by Claims 1-3 and 12-14.

Holland et al. merely describes injection molding a hollow plastic product with one open end and one closed end and then using compressed air to remove the injection-molded plastic product from a core mold part. Since neither reference suggests any motivation for removing at least a portion of the closed end of a hollow plastic product that was formed with one open end and one closed end, combining the teachings of Butcher et al. and Holland et al. would not have resulted in the present invention.

The rejection of Claims 3 and 14 under 35 USC 103(a) as being unpatentable over Butcher et al. in view of Holland et al. and in further view of Zuffa and the rejection of Claims 4 and 15 under 35 USC 103(a) as being unpatentable over Holland et al. and in view of Zuffa are respectfully traversed because the claimed invention would not have been obvious to a person of ordinary skill in the art.

The claimed process of manufacturing a hollow plastic product with a substantially tubular section and a thread at the outside of one end of the product includes the steps of

(a) providing a cavity mold part with a generally cylindrical portion for forming at least an outside segment of the substantially tubular section of the product and a thread-forming portion for forming the thread of the product;

(b) providing a core mold part with a generally cylindrical portion for forming at least an inside segment of the substantially tubular section of the product and a movable inner core for forming a portion of the product lying inside the thread when the inner core is protracted;

(c) retracting the inner core (after the mold parts have been combined to configure a mold cavity and plastic has been injected into the mold cavity to form the product); and

(d) separating the core mold part from the cavity mold part to thereby remove the thread from the thread-forming portion of the cavity mold part while retaining the molded product on the core mold part.

Retraction of the inner core prior to the separation of the core mold part from the cavity mold part, which takes place while the molded product is retained on the core mold part, enables the portion of the molded product lying inside the thread to be compressed to partially occupy the region of the mold cavity vacated upon retraction of the inner core so that the thread may be removed from the cavity mold part without damaging the thread. (See page 10, lines 15-19 of the Specification).

The references do not suggest such a combination of steps or a combination of apparatus for performing such steps. Neither Butcher et al. nor Holland et al. pertain to the removal of a threaded injection-molded plastic product from the mold parts. Zuffa merely describes the formation of a molded plastic product that includes a thread on the inside of the product and the removal of such product from the mold parts; whereas the present invention is directed to the formation and removal of an injection-molded plastic product that includes a thread on the outside of one end of the product. Also, it is not seen where Zuffa describes retracting a movable inner core of the core mold part, as also required by Claims 3, 4, 14 and 15.

Inasmuch as the Examiner's reasons for rejecting these claims were premised upon her erroneous assertions that a thread is formed on the outside of Zuffa's product by the cavity mold part and that Zuffa described retracting a movable inner core of the core mold part, it is not apparent why the claimed process and apparatus would have been obvious.

Alternatively, Claims 3 and 14 are patentable for the reasons set forth above for traversing the rejection of Claims 1, 2, 12 and 13.

Conclusion

Reconsideration and allowance of Claims 1-4 and 12-15 are respectfully requested.

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Respectfully submitted,



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